



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,103	12/18/2000	Erik W. Jensen	884.386US1	5261

7590 06/19/2002
Schwegman, Lundberg
Woessner & Kluth, P.A.
P.O. BOX 2938
Minneapolis, MN 55402

EXAMINER

ALCALA, JOSE H

ART UNIT PAPER NUMBER

2827

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,103

Applicant(s)

JENSEN, ERIK W.

Examiner

Jose H Alcala

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5 and 21-40 is/are pending in the application.
- 4a) Of the above claim(s) 38-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5 and 21-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 12 February 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 38-40 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: they are drawn to a method of making the device of the instant claimed invention, instead of to the actual device which was the elected invention.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 38-40 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

2. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 2/12/02 have been approved. However, the figures are improperly crosshatched. All of the parts shown in the section, and only those parts, must be crosshatched. The crosshatching patterns should be selected from those shown on page 600-81 of the MPEP based on the material of the part. See also 37 CFR 1.84(h)(3) and MPEP 608.02. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the case where the pad has five substantially straight edges, as disclosed in claim 4, the hyperbolic taper of claim 25, the triangular conductors of claim 28, the exponential taper of claim 32, the square conductors of claim 34, and the hexagonal conductors of claim 36 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 26-28,32-34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation that the tapered conductive segment comprises a hyperbolic taper, and the limitation that the tapered conductive segment includes an exponential taper are not described in the specification.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-5,21-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2,23,29, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: how the vias are coupled to the pad, the use of the word coupled by itself is not enough to describe the relationship between these elements. Furthermore, it is not clear if the via that is "substantially beneath" the pad, is just directly in contact with the pad or if there is another element coupling them.

Regarding Claim 3, the claim is indefinite in the first two lines when it recites: "at least one of the at least two vias is coupled to the pad by a conductive segment", because it is giving space to the possibility that all of "the at least two vias" are coupled to the pad by a conductive segment, which is not supported in the drawings or in the specification. The recitation should be changed to something like: "at least one via not formed substantially beneath the pad, is coupled to the pad by a conductive segment".

Regarding Claim 4, the claim is indefinite in lines 2 and 3, when it recites: "only two of the three vias are coupled to the substantially straight edges", because it is giving space to the possibility that the via that is substantially beneath the pad is coupled to the substantially straight edges of the conductive segment, which is not supported in the

drawings or in the specification. The recitation should be changed to something like:
"only the two vias that are not formed substantially beneath the pad are coupled to the substantially straight edges".

Regarding Claim 24, it is further unclear if there is a possibility of the via substantially beneath the pad to be coupled to the pad by a tapered conductive segment, and in that case there might be a possibility of a 112 1st paragraph rejection.

Regarding Claim 26, the limitation that the tapered conductive segment comprises a hyperbolic taper is vague and indefinite, it is not clear if one of the borders has that shape or how can the whole conductive segment comprise a hyperbolic taper.

Regarding Claim 29, it is further unclear in line 4, to which "at least two vias" is the claim referring to, does it means that at least two vias, of the at least four vias are formed beneath the pad, or at least one via, of the at least four vias is formed beneath the pad.

Regarding Claim 30, it is further unclear if there is a possibility of the via substantially beneath the pad to be coupled to the pad by a tapered conductive segment, and in that case there might be a possibility of a 112 1st paragraph rejectionbeneath the pad be coupled to the pad by a tapered conductive segment.

Regarding Claim 32, the limitation that the tapered conductive segment includes an exponential taper are is vague and indefinite, it is not clear if one of the borders has that shape or how can the whole conductive segment include an exponential taper

Regarding Claim 37, it recites the limitation "the at least two vias" in line 1. There is insufficient antecedent basis for this limitation in the claim. It is not clear if it means at

least two vias of the at least five vias, and it is further unclear if it is including the via that is substantially beneath the pad.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claim 2 is rejected under 35 U.S.C. 102(e) as being anticipated by Memis (US Patent No. 6,162,997). As best understood by the examiner:

Memis teaches an interconnect comprising: a substrate (Reference numbers 12,13,14); a pad (Reference number 20) formed on the substrate; and at least two vias (Reference number 21,26) coupled to the pad, wherein only one (Reference number 21) of the at least two vias is formed substantially beneath the pad.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 21,22,23,29,35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997). As best understood by the examiner:

Regarding Claim 21, Memis teaches all the elements of the instant claimed invention as stated supra for claim 2, but fails to explicitly teach that the pad comprises copper. Copper is a very well known material and is used in the art for conductors of all sorts, such as pads, for its excellent electrical and thermal conducting properties. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the pad comprising copper, to have a highly conductive material as the pad. In addition, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding Claim 22, Memis teaches that at least two vias (Reference number 21 and 26) comprise cylindrical conductors.

Regarding Claims 23,29 and 35, Memis teaches an interconnect comprising: a substrate (Reference numbers 12,13,14); a pad (Reference number 20) formed on the substrate; and at least two vias (Reference number 21,26) coupled to the pad, wherein only one (Reference number 21) of the vias is formed substantially beneath the pad. Memis fails to explicitly teach that there are at least three, four, or five vias coupled to the pad, wherein only one of the at least three, four, or five vias, is formed substantially beneath the pad. It would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the number of vias connected to the pad in

order to be able to transmit more electrical or thermal energy between the chip and a printed circuit board. In addition, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding Claim 36, *Memis* fails to explicitly teach that the pad comprises silver. Silver is a very well known material and is used in the art for conductors of all sorts, such as pads, for its excellent electrical and thermal conducting properties. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the pad comprising silver, to have a highly conductive material as the pad. In addition, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In *re Leshin*, 125 USPQ 416.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Memis* (US Patent No. 6,162,997) in view of *Badet et al.* (US Patent No. 4,371,744). As best understood by the examiner:

Regarding Claim 3, *Memis* teaches all the elements of the instant claimed invention as stated *supra* for claim 2, but fails to teach that at least one of the at least two vias is coupled to the pad by a conductive segment having a first end having a first width and a second end having a second width, the first end being connected to the at least one of the at least two vias and the second end being connected to the pad, and the first width being less than the second width. *Badet* teaches a conductive segment

Art Unit: 2827

(Reference number 12) that connects a chip to a pad located on a substrate, having a first end having a first width and a second end having a second width, and the first width being less than the second width. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis and Badet, in order to have the first end of the conductive segment of Badet being connected to the at least one of the at least two vias and the second end being connected to the pad, taught by Memis. Thus, by connecting the pad to the via, through the outside of the substrate, it is easier to repair or modify the circuit functions without removing the chip component.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997) in view of Goenka et al. (US Patent No. 4,371,744). As best understood by the examiner:

Regarding Claim 4, Memis teaches all the elements of the instant claimed invention as stated supra for claim 2, but fails to teach that the pad has at least five substantially straight edges and the at least two vias comprise three vias and only two of the three vias are coupled to the substantially straight edges. Goenka teaches that the pad has at least five substantially straight edges (reference number 41) and they are connected to each other and to other elements from the straight edges. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis and Goenka in order to have a pad having at least five substantially straight edges and being coupled by them to the vias, thus reducing the rate of undercutting of the pad significantly, minimizing the risk of delamination.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the number of vias connected to the pad in order to be able to transmit more electrical or thermal energy between the chip and a printed circuit board. In addition, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Memis* (US Patent No. 6,162,997) in view of *Goenka et al.* (US Patent No. 4,371,744), and further in view of *Frei et al.* (US Patent No. 5,342,999). As best understood by the examiner:

Regarding Claim 5, *Memis* as modified by *Goenka*, teaches all the elements of the instant claimed invention as stated supra for claim 4, but fails to teach that at least one of the only two of the three vias coupled to the substantially straight edges is coupled to one of the substantially straight edges through a tapered conductive segment. *Frei* teaches a tapered conductive segment (the conductor reference number 70, at the top-leftmost part of Figure 13) coupling a via to substantially straight edges of a pad (Reference number 68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Memis*, *Goenka* and *Frei*, in order to have at least one of the only two of the three vias coupled to the substantially straight edges is coupled to one of the substantially straight edges through the *Frei* tapered conductive segment, thus effectively and reliably connect the pad and

the vias, without having to have a bigger pad, reducing the material used and in that way reducing the cost of manufacture.

15. Claims 24,25,30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997) in view of Frei et al. (US Patent No. 5,342,999). As best understood by the examiner:

Regarding Claim 24, Memis teaches all the elements of the instant claimed invention as stated supra for claim 23, but fails to explicitly teach that at least one of the at least three vias is coupled to the pad by a tapered conductive segment. Frei teaches a tapered conductive segment (the conductor reference number 70, at the top-leftmost part of Figure 13) coupling a via to substantially straight edges of a pad (Reference number 68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis and Frei, in order to have at least one of the only two of the three vias coupled to the substantially straight edges is coupled to one of the substantially straight edges through the Frei tapered conductive segment, thus effectively and reliably connect the pad and the vias, without having to have a bigger pad, reducing the material used and in that way reducing the cost of manufacture.

Regarding Claim 25, Memis as modified by Frei, fails to explicitly teach that the tapered conductive segment comprises copper. Copper is a very well known material and is used in the art for conductors of all sorts, such as pads, for its excellent electrical and thermal conducting properties. It would have been obvious to one having ordinary

Art Unit: 2827

skill in the art at the time the invention was made to make the tapered conductive segment comprising copper, to have a highly conductive material as the material of the tapered conductive segment. In addition, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding Claim 30, Memis teaches all the elements of the instant claimed invention as stated supra for claim 29, but fails to teach at least three of the at least four vias is coupled to the pad by a tapered conductive segment. Frei teaches a tapered conductive segment (the conductor reference number 70, at the top-leftmost part of Figure 13) coupling a via to substantially straight edges of a pad (Reference number 68). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis and Frei, in order to have at least three of the at least four vias coupled to the pad by using the Frei tapered conductive segments, thus effectively and reliably connecting the pad and the vias, without having to have a bigger pad, reducing the material used and in that way reducing the cost of manufacture.

Regarding Claim 31, Memis as modified by Frei, fails to explicitly teach that the tapered conductive segment comprises aluminum. Copper is a very well known material and is used in the art for conductors of all sorts, such as pads, for its good electrical and thermal conducting properties and because it is lightweight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the tapered conductive segment comprising aluminum, to have a good and lightweight

conductive material as the material of the tapered conductive segment. In addition, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

16. Claims 26,27,32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997) in view of Frei et al. (US Patent No. 5,342,999), and further in view of Sasaoka et al. (US Patent No. 6,010,769). As best understood by the examiner:

Regarding Claim 26, Memis as modified by Frei teaches all the elements of the instant claimed invention as stated supra for claim 25, but fails to explicitly teach that the tapered conductive segment comprises a hyperbolic taper. Sasaoka teaches a tapered conductive segment comprising a hyperbolic taper (Reference number 14 in Figure 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis, Frei and Sasaoka in order to make the tapered conductive segment comprising a hyperbolic taper, thus improving the reliability of the connection by making the interconnect more resistant to stress applied during manufacturing.

Regarding Claim 27, Frei teaches that the pad comprises gold.

Regarding Claim 32, Memis as modified by Frei teaches all the elements of the instant claimed invention as stated supra for claim 31, but fails to explicitly teach that the tapered conductive segment comprises an exponential taper. Sasaoka teaches a

tapered conductive segment comprising an exponential taper (See Figure 11B). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis, Frei and Sasaoka in order to make the tapered conductive segment comprising an exponential taper, thus improving the reliability of the connection by making the interconnect more resistant to stress applied during manufacturing.

Regarding Claim 33, Memis fails to explicitly teach that the pad comprises tungsten. Tungsten is a very well known material and is used in the art for conductors of all sorts, such as pads, for its excellent electrical and high melting point. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the pad comprising tungsten, to have a highly conductive material as the pad that can resist high temperatures during manufacturing and operation. In addition, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

17. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997) in view of Frei et al. (US Patent No. 5,342,999), and further in view of Sasaoka et al. (US Patent No. 6,010,769) and Kondo et al. (US Patent No. 6,043,986). As best understood by the examiner:

Regarding Claim 28, Memis as modified by Frei and Sasaoka teaches all the elements of the instant claimed invention as stated supra for claim 27, but fails to explicitly teach that each of the at least two vias comprise triangular conductors. Kondo

teaches in figure 5, vias comprising triangular conductors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis, Frei, Sasaoka and Kondo in order to have each of the at least two vias comprising triangular conductors, in order to improve the thermal conductivity of the interconnect by effectively radiating the heat generated from the circuit elements.

18. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997) in view of Frei et al. (US Patent No. 5,342,999), and further in view of Sasaoka et al. (US Patent No. 6,010,769) and Mancini (US Patent No. 3,601,750). As best understood by the examiner:

Regarding Claim 34, Memis as modified by Frei and Sasaoka teaches all the elements of the instant claimed invention as stated supra for claim 33, but fails to explicitly teach that each of the at least four vias comprise square conductors.

Mancini teaches in figure 1, vias comprising square conductors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis, Frei, Sasaoka and Mancini in order to have each of the at least two vias comprising square conductors, in order to assure an uniform electrical conduction by having a uniform cross section.

19. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Memis (US Patent No. 6,162,997) in view of Kondo et al. (US Patent No. 6,043,986). As best understood by the examiner:

Regarding Claim 37, Memis teaches all the elements of the instant claimed invention as stated supra for claim 36, but fails to explicitly teach that each of the at

least two vias comprises hexagonal conductors. Kondo teaches in figure 6, vias comprising hexagonal conductors. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Memis and Kondo in order to have each of the at least two vias comprising hexagonal conductors, in order to improve the thermal conductivity of the interconnect by effectively radiating the heat generated from the circuit elements.

Response to Arguments

20. Applicant's arguments with respect to claims 2-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Application/Control Number: 09/740,103
Art Unit: 2827

Page 17

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose H Alcala whose telephone number is (703) 305-9844. The examiner can normally be reached on Monday to Friday.

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

25. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JHA
June 16, 2002



KAMAND CUNEO
PRIMARY EXAMINER